MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2019/2020

BCE2034 – PROJECT CYCLE AND PROJECT EVALUATION

(All sections / Groups)

6 MARCH 2020
9.00 a.m - 11.00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of **ELEVEN (11)** printed pages (including the cover page and formula sheet) with:
   Section A: Twenty (20) multiple choice questions (40%)
   Section B: Three (3) structured questions (60%)

2. Shade all answers to **Section A** in the multiple-choice answer sheet provided and **Section B** in the answer booklet provided (including tables and graphs).

3. Marks are shown at the end of each section.

Section A: Multiple Choice Questions (40 Marks)

1. Which of the following is **NOT** considered to be a characteristic of a project?
   A. It has an established objective.
   B. It has a clear beginning and end.
   C. It is for internal use only.
   D. It has a specific time, cost and performance requirements.

2. Project risk management is best described as
   A. managing responses to threats.
   B. identifying and acknowledging threats and opportunities.
   C. planning responses to threats.
   D. minimizing threats and maximizing opportunities.

3. The main outcome of risk identification, in a risk management process, is to
   A. identify and determine the relative importance of the projects risks.
   B. identify and describe all risks that might occur on the project.
   C. identify and determine the responses to the project risks.
   D. identify and describe risks that have occurred on previous projects.

4. A key aspect of managing a project involves
   A. defining which operational systems to put in place.
   B. identifying routine tasks.
   C. ensuring ongoing operations are maintained.
   D. planning to achieve defined objectives.

5. Who are project team members primarily accountable to?
   A. External stakeholders
   B. The end users
   C. The finance director
   D. The project manager

6. What is secondary data?
   A. Published data
   B. Extra data
   C. Unreliable data
   D. Back-up data

7. Which of the following is **NOT** a weakness of demand forecasting?
   A. Insufficient data collected
   B. Realistic assumptions
   C. Technological change or advancement might affect its accuracy.
   D. Some observations may be influenced by abnormal factors, such as war.

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8. Under the capital asset pricing model (CAPM) approach, the greater the beta, the ..... of the security involved.
   A. greater the unavoidable risk
   B. greater the avoidable risk
   C. less the unavoidable risk
   D. less the avoidable risk

9. An approach that states a general description of problem to be addressed or project to be undertaken, is
   A. the technical approach.
   B. the monetary approach.
   C. scaling approach.
   D. criterion approach.

10. You are considering two mutually exclusive investment proposals, project A and project B. Project B's expected value of net present value is RM1,000 less than that for project A and project A has less dispersion. On the basis of risk and return, it can be concluded that
   A. project A is more risky and should offer greater expected value.
   B. each project is high on one variable, so the two are basically equal.
   C. project A dominates project B.
   D. project B dominates project A.

11. If net income available to stockholders is RM150 and total assets are RM2,100, then return on total assets would be
   A. 0.0007.
   B. 0.0714.
   C. 0.05 times.
   D. 7.15 times.

12. It is in the interest of business to the protect the environment because
   A. short term profits will increase.
   B. in the long term we are all dead.
   C. current operating costs will fall.
   D. maximizing short term profits endangers long term profits and increases risk.

13. Which of the following is an advantage of a decision tree approach?
   A. Possible scenarios cannot be added to minimize complications.
   B. Worst, best and expected values can be determined for different scenarios.
   C. Can simply be done by using any model preferred such as blue box or green box.
   D. Given end results are shown in various shapes.

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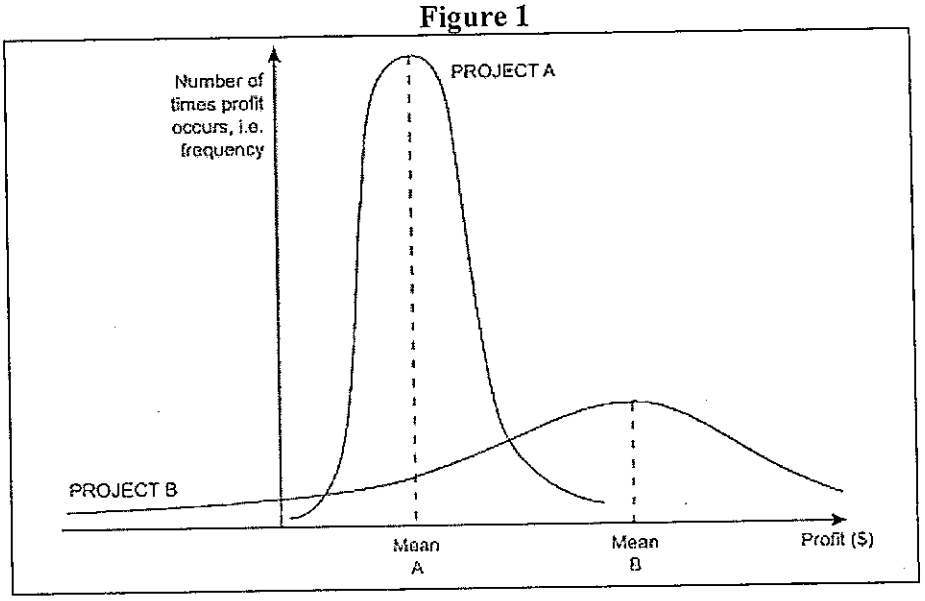
14. A firm's overall cost of capital
    A. varies inversely with its cost of debt.
    B. is another term for the firm's internal rate of return.
    C. is the same as the firm's return on equity.
    D. is the required return on the total assets of the firm.

15. Based on **Figure 1** below, a business uses simulation to generalize a distribution of profits for project A and project B. If the business would prefer to minimize its exposure to risk, which project would it take on?

Figure 1



    A. Project A, because it has a lower risk and a lower average return.
    B. Project B, because it has a lower risk, but higher average return.
    C. Both project A and project B have similar exposure to risk.
    D. Neither project A nor project B, because both have high risk.

16. A technique that accumulates and tracks costs of business function in value chain attributed to each market, offering from research and development to final customer support, is called
    A. product life cycle.
    B. life cycle budgeting.
    C. life cycle costing.
    D. target costing.

Continued...

17. The entire process of a project may be considered to be made up on number of sub-processes placed in different stages called the
    A. Technical Key Resources (WKR).
    B. Work Key Structure (WKS).
    C. Work Breakdown Structure (WBS).
    D. none of the above is correct.

18. Which one of the following does **NOT** fall under qualitative forecasting method?
    A. Delphi method
    B. Judgmental methods
    C. Market research
    D. Moving average methods

19. Net present value (NPV) used to evaluate an investment
    A. is shown as a percentage.
    B. does not require an estimate of the cost of capital.
    C. does not allow for the time value of money.
    D. uses relevant cash flows.

20. Consider the following net cash inflows for a project in **Table 1**.

Table 1

Year	Amount (RM)
Year 1	12,000
Year 2	8,000
Year 3	4,000
Year 4	3,000

If the initial investment amounts to RM22,000, then the payback period for the project would be
    A. 2 years.
    B. 2 years 6 months.
    C. 3 years.
    D. 3 years 6 months.

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Section B: Structured Questions (60 Marks)

Question 1 (20 marks)

Question 1 is based on **Article 1** below.

Article 1

NANHUI: A DIFFERENT NEW CITY FOR CHINA

Built from Scratch, It Aims to have 800,000 Residents by 2020

Some 15 years ago, the city of Nanhui existed only on an architect's drawing board. Like other new cities across the Chinese landscape, it came into being as a result of a government effort to alleviate the strain that unfettered development had placed on the country's largest urban centres.

Located in Pudong 65 kilometres from Shanghai, Nanhui is nearly complete and is partially inhabited. Construction is expected to end by 2020, with the total cost reaching about $4.5 billion.

Known as Lingang New City until 2012, Nanhui is the work of the famous German architectural firm von Gerkan, Marg und Partner, or GMP. One of the firm's founders, Meinhard von Gerkan, a guru of contemporary architecture, was inspired by the image of a drop in a body of water and the concentric circles that it created.

"The whole city structure is based on the metaphor of an image of concentric ripples, formed by a drop falling into water", reads a presentation of the project by the firm. So Nanhui is a physical manifestation of this image since it came into being by reclaiming land from the sea.

So much of it was reclaimed, in fact, that this new land came to make up 45% of the city's 133 square kilometres. So, to a certain degree, Nanhui rises from the sea at the centre of the city is an artificial lake 2.5 kilometres in diametre. Part of the land reclaimed from the sea was later dug up again and filled with water to create the lake. Around it are a series of circular avenues, a park, residential districts and, further away, university campuses, industrial parks, warehouses and custom houses near the port.

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By putting a lake, a beach and a forested park at the centre of the city, the architectural firm wanted to avoid the mistakes committed by developers of other cities, which ended up being big and anonymous with rows upon rows of housing blocks crisscrossed by boulevards made for cars rather than people.

So the city's lay-out has it radiate from the lake. With public squares at every intersection, landscaping throughout and other spaces created for pedestrians, Nanhui is prepared to receive about 800,000 residents for its universities, industries and port facilities. Its buildings follow a certain European style in homage to Hamburg, GMP's home.

Nanhui

About 80% of the city area is owned by private investors, who hope that it will gradually come alive as the government deploys its usual tactic to encourage migration to new cities like Nanhui. It starts with the universities, which has drawn about 100,000 students since 2016. The presence of such a large number of young people inevitably draws businesses to the city, creating a virtuous economic cycle as more and more stores, cafes, restaurants and other outlets and services open up to cater to their needs.

All of this contributes to Nanhui becoming a green satellite city of Shanghai with the advantage of being in a strategic position for doing business. The city is at the tip of a peninsula where Pudong is located. It is also where the Yangtze River empties into the sea. It is 30 kilometres from Pudong International Airport - a hub for Shanghai. It is also the same distance away from the Shanghai Yangshan Deep Water Port, built on the islands of the Greater and Lesser Yangshans that are linked by a 32-kilometre bridge, one of the longest in the world. As the city closest to the port, Nanhui can alleviate the demographic pressure on Shanghai.

Another important aspect of Nanhui is the idea of creating an ecofriendly city whose features encourage a lifestyle akin to that found in most European urban centres. Pedestrian areas instead of boulevards for cars, a sense of community and cultural and recreational activities for everyone. In other words, sustainable development – something which China is taking into account a lot more than had been expected.

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But von Gerkan dismisses Nanhui or any other new city willed into existence by the Chinese government being anything close to a utopian ideal. "At the very latest when it is built Lingang/Nanhui will no longer be a utopian city," he says. "But there is something that almost borders on a utopia: first the sea was filled in to create land for the city then the center was excavated once again. The characteristics of this process may possibly have a utopian quality. But I am convinced that China urgently needs such utopian concepts. I never thought that we would win the competition with this initially utopian project for Lingang. Here a utopia has become reality."

Source:

Vianello, L. (2017, October 7). Nanhui: A Different New City for China. *Digital Magazine*. Retrieved from https://www.webuildvalue.com/en/megatrends/nanhui-a-different-new-city-for-china.html

(a) Identify and elaborate on at least **TWO (2)** main characteristics of Nanhui.
(4 marks)

(b) Examine **TWO (2)** potential social impacts of building Nanhui from scratch.
(6 marks)

(c) Examine **TWO (2)** potential environmental impacts of building Nanhui from scratch.
(6 marks)

(d) Evaluate on how this city can contribute in making China a more globalized nation.
(4 marks)

Question 2 (20 marks)

(a) There are several sources of risk in a project. Examine **TWO (2)** of them.
(4 marks)

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(b) Consider a capital investment whose net present value has the distribution as shown in **Table 1**.

Table 1

Net Present Value (NPV)	Probability
400	0.3
800	0.4
1200	0.1

Based on the data given in **Table 1**, calculate the

(i) probability weighted net present value of this capital investment. (3 marks)

(ii) standard deviation of this distribution. (3 marks)

(iii) variance of this distribution. (3 marks)

(iv) coefficient of variation. (3 marks)

(c) Based on your calculation in part (b)(iv), what does the value imply about this capital investment? Is it advisable to take up this investment? Analyse. (4 marks)

Question 3 (20 marks)

(a) There are various means of financing a project. Give **TWO (2)** examples. (4 marks)

(b) Company XYZ sells water bottles. Its fixed costs consist of property taxes, a lease, and executive salaries; which add up to RM45,000. The variable costs associated with producing one water bottle is RM1 per unit. The water bottle is sold at a price of RM3.

(i) Find the quantity of water bottles at the break-even point of Company XYZ's water bottle business. (5 marks)

(ii) Why is it important to know the break-even point of operating a business or project? (3 marks)

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(c) If the price of bond A is RM920 with a face value of RM1,000; which is the face value of many bonds. Assume that the annual coupons are RM100; which is a 10% coupon rate, and that there are 10 years remaining until maturity.

(i) Calculate this bond A's approximate yield to maturity.

(4 marks)

(ii) If there is another bond; which is bond B that has an approximate yield to maturity of 10%, would you choose bond A or bond B? Analyse.

(4 marks)

End of Question

Formula Sheet

1. $E(NPV) = \sum_{i=1}^{n} p_i * NPV_i$

2. $\sigma = \left[\sum p_i \left(Xi - \overline{X}\right)^2\right]^{\frac{1}{2}}$

3. Variance $= \sigma^2$

4. $CV = \dfrac{\text{Standard deviation}}{\text{Expected value}}$

5. $r_D = \dfrac{I + \left(\dfrac{(F - P_0)}{n}\right)}{\left(\dfrac{F + P_0}{2}\right)}$

6. $EMV = P * I$

7. $NPV = \sum_{t=1}^{n} \dfrac{C_t}{(1+r)^t}$ – Initial Investment

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